

NEW CONOPIDAE FROM THE NEOTROPICAL REGION (DIPTERA)¹

Sidney Camras²

ABSTRACT: A new subgenus *Aureoconops* of the genus *Physoconops* and six new species of Conopidae are described: *Physoconops (Aureoconops) aureolus* from Peru; *P. (Pachyconops) thompsoni* from the Bahamas; *P. (Kroebroconops) argentinus* from Argentina; *Zodion chavalai* from Argentina; *Zodion bellum* from Mexico; and *Stylogaster parrilloi* from Costa Rica.

KEY WORDS: *Physoconopus*, *Aureoconopus*, *Zodion*, *Stylogaster*, Diptera, Conopidae, Neotropical.

The six new species of conopids described in this paper are quite distinct and easily recognized. Many other apparently new species are present in various collections received for identification, but more study and material are required to rule out variation of known species.

Conopidae are often collected individually as evident from these new species being known from single specimens, or in one case, from two specimens of the same sex.

Genus *Physoconops* Szilady Subgenus *Aureoconops*, NEW SUBGENUS (Fig. 1)

Type species *Physoconops aureolus* Camras

Vertex triangular, large and prominent, extending anteriorly over one third of the frons. Frons narrow, longer than wide. First flagellomere one fourth longer than pedicel. Abdominal pedicel long and narrow. Second tergite four times as long as wide. Gold pollinose areas extensive and distinct from dark areas.

Comments. This subgenus is unique in the large triangular shape of the vertex and the prominent gold pollinose coloration. The narrow frons associated with the long first flagellomere is also unusual. In my key to the subgenera of *Conops* (Camras 1955: 161) it comes closest to *Gyroconops* which has a wide frons and the vertex mainly rounded anteriorly.

Physoconops (Aureoconops) aureolus, NEW SPECIES (Fig.1)

Head yellow and gold pollinose. Ocellar tubercle and Y-shaped pattern on frons black, as is the antenna, proboscis and occiput centrally. Black hair on dorsal part of vertex. Proboscis nearly two times as long as head. Antennal proportions 1: 2: 2¼. Scape four times as long as wide.

Thorax brownish black but mainly gold pollinose. Distinct wide gold pollinose pleural stripe joins gold of the mesonotum. A velvety black midstripe and divided black lateral stripe on the mesonotum.

¹ Received on January 31, 2002. Accepted on November 28, 2003.

² Associate, Division of Insects, The Field Museum, 1400 S. Lake Shore Drive, Chicago, IL 60605-2496, USA.

Legs brownish black, mainly gold pollinose. Apical part of tarsi and tips of claws black. Claws otherwise and pulvilli yellow.

Wing with brownish gray pattern between vein R+R1 and RS+R4+5 and vena spuria. Apical part of wing paler gray. Pattern darkest above and below vein R4+5. Halter yellow, rufous at club and base.

Abdomen mainly black, brownish black on second segment, yellow at junction of second and third segments. Gold pollinose apical margins on all segments and entirely so on apical segment. Pedicel long and narrow. Club of abdomen abnormally contracted. Genitalia brownish black.

Length: 12 mm.

Type Data. Holotype ♂. Peru: Madre de Dios: Manu, Río Manu, 250 m., Pakitza, 12° 7'S, 70° 58'W, 9-23.ix.1988, Amnon Freidberg. Held on deposit at USNM for Peru (see Zumbado & Thompson, 1997:80 for details on this concept).

Remarks. This species keys to *P. costatus* (Fabricius, 1805) in my key (Camras, 1955: 186) but that species has a wide frons and belongs to the subgenus *Aconops*.

Physoconops (Pachyconops) thompsoni, NEW SPECIES

Head entirely black except for rufous at the antennal prominence of the frons, facial grooves and oral area, proboscis except for labellae, most of style, part of scape, and small areas on occiput; orbitals and facial grooves yellowish white pollinose. Antennal proportions 1:2:2. Scape three times as long as wide.

Thorax entirely black except for small rufous areas near postpronotum and on pleura. Coxae and legs rufous, but tarsi black except at base. Pulvilli and claws yellow; tips of claws black.

Wing and veins from costa to vein CuA + CuA1 bright rufous; sharply black in apical half of cell R4+5 and adjacent cell R2+3; black along vein CuA1 in discal cell; very pale rufous in posterior part of wing, but distinctly hyaline between vena spuria and vein M. Halter rufous, black at club and base.

Abdomen rufous on segments one to three except for narrow black margin at base of first and apex of third segments; apical margins yellow white pollinose at first to third segments and at sides of second segment. Remainder of abdomen and genitalia shining black.

Length: 14 mm.

Type Data. Holotype ♂. Bahamas: San Salvador Island, North Point. 4.vi. 1978, A.G. Scarborough (USNM).

Remarks. This species keys to couplet 6 (Camras, 1955: 184), but has rufous on abdominal segments two and most of one and three. Named for F. Christian Thompson, who brought this specimen to my attention, in appreciation for his leadership and his fine work on Syrphidae especially those of the West Indies.

Physoconops (Kroebroconops) argentinus, NEW SPECIES

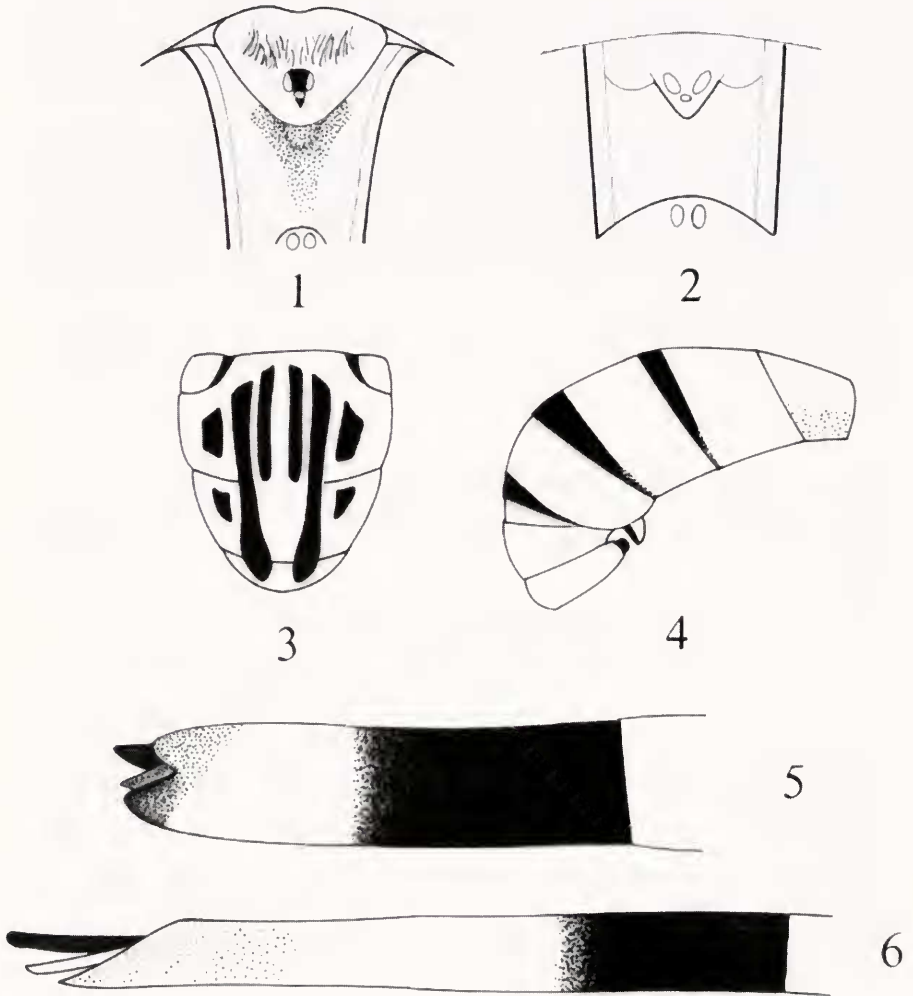
(Fig. 2)

Head, antenna and proboscis black. Upper medial part of face yellow; ocelli and small areas on antennae rufous; face, grooves and orbitals gold pollinose in some views. Antennal proportions 1: 2½:1½. Scape 3½ times long as wide.

Thorax entirely black, faint yellow pollinose in some views. Legs black. Coxae gold pollinose. Rufous areas on knees, tarsi, and pulvilli. Claws entirely black.

Wing pattern from costa to vein CuA+CuA1 mainly rufous but paler in costal and cell R+Bm; blackish apically especially along vein R4+5 and along entire vein R1. Halter rufous, club black, gray at base.

Abdomen black, with a distinct rufous band at junction of second and third segments; second segment very shiny; gold pollinose posterior bands on segments three to five, entirely gold pollinose on



1, *Physoconops aureolus*, vertex and frons; 2, *Physoconops argentinus*, same; 3, *Zodion bellum*, mesonotum; 4, *Zodion chvalai*, abdomen; 5, *Stylogaster parrilloi*, ovipositor, apical segment; 6, *Stylogaster triannulata*, same.

sixth segment. Second segment five times as long as wide. Third segment shorter and becoming much wider apically resulting in a distinct wide abdominal club. Genitalia rufous and black.

Length: 11 mm.

Type Data. Holotype ♂. Argentina: Volcán, 2000 m., ii.1927 (USNM)

Remarks. This species keys to *P. hermanni* (Kröber, 1915) (Camras, 1955: 184) but has the facial grooves and legs black.

***Zodion bellum*, NEW SPECIES**

(Fig. 3)

Head mainly yellow, vertex and frons rufous. Blackish area and gold pollinose triangle at side of vertex. Ocellar tubercle black. Face and gena gold pollinose. Brown area between face and gena. Grooves blackish. Occiput gray pollinose, gold pollinose between the usual two black lines from the vertex to neck. Antenna mainly black, first flagellomere dark rufous. Arista black. Antennal proportions 1:4:2½. Proboscis black, one and one half times head length.

Thorax and coxae blue gray pollinose with yellowish areas. Mesonotal black stripes very distinct, the submedials being a little narrower and shorter than the sublaterals and the laterals. The sublaterals extend onto the scutellum. Black areas on anepisternum. Eight scutellar bristles. Legs and claws black. Pulvilli yellow. Wing grayish hyaline, veins black. Calypter yellowish white. Halter yellow, brown at base.

Abdominal segments one to three blue gray pollinose, remainder of the abdomen gold pollinose. Second and third segments with large paired triangular black marks and narrow gold pollinose posterior margins. Very distinct narrow black stripes on fourth segment. V-shaped posterior margin of fifth segment appears blackish on anterior view. Genitalia shining black.

Length: 8 mm.

Type Data. Holotype ♂. Mexico: El Camaron, 20 mi. E, Oax. 21.vii.1956, D.D. Linsdale (Camras Collection).

Remarks. This species keys to *Z. pictum* Schiner, 1868 (Pearson and Camras, 1978: 205) which does not have the distinctive gold pollen on the apical abdominal segments. This specimen was studied by Pearson and he also thought it was new and near *Z. pictum*.

***Zodion chvalai*, NEW SPECIES**

(Fig. 4)

Vertex reddish brown laterally extending onto the frons, yellow centrally. Ocellar triangle black. Frons bright orange yellow. Face, grooves, gena and lower occiput yellow pollinose. Upper occiput mainly black with usual pair of black lines from vertex to neck. Antenna yellow, black apically on first flagellomere and at base and apex of arista. Proportions 1:3:3. Gena two thirds of the eye height. Proboscis black, more than two times head length.

Thorax pale yellow and gray, gray and yellowish pollinose. Distinct sublateral black line extending onto the scutellum. Slender shorter black midline does not reach the scutellum. Metanotum gray pollinose, lower margin shining black. Coxae and legs yellow with yellow pollinose areas on coxae and tibiae. Apical segment of tarsi partly black. Pulvilli yellow; claw yellow, black apically. Wing faintly yellow hyaline, yellow in costal and subcostal cells and at base. Halter yellow.

Abdomen rufous with gold pollinose longitudinal markings. Distinct black posterior margins on segments two, three and four. Seventh segment, genitalia and theca shining rufous. Theca slender with black margin, as long as wide.

Length: 6.5 mm.

Type Data. Holotype ♀. Argentina: Cordoba, Capilla del Monte, coll. Prf. Hosseus (Chvála Collection).

Remarks. This species keys to couplet 19 (Pearson and Camras, 1975:206), but has the abdomen rufous with distinct black posterior margins on segments three, four and five. An entirely rufous abdomen in a female is unique in this genus.

Etymology. Named for Professor Milan Chvála, Charles University, Prague, in appreciation of his help and his fine work on Palearctic Conopidae.

***Stylogaster parrilloi*, NEW SPECIES**
(Fig. 5)

Vertex triangular, dark yellow, reaching anterior one third of frons. Ocellar tubercle shining black. Frons velvety brownish black. Face and gena yellow with some brownish areas, silvery pollinose. Medial eye facets very large. Occiput pale, dark dorsally, white pollinose. Antenna dark yellow, first flagellomere rufous, black dorsally. Arista black, as long as pedicel. Antennal proportions 1:2:6. Proboscis black, yellow basally and on labella; second (middle) segment three times as long as head.

Thorax yellow and white. Most of mesonotum and pleural stripe back with greenish sheen. Postpronotum, posterior margin of mesonotum, margins of scutellum and upper margin of metanotum yellow. Pro- and mesocoxa and legs yellow. All tarsi black. Metafemur with three black bands, the apical band is narrowest. Metatibia black, yellow at base and preapical band which is almost entirely white haired, and occupies about one fourth of the tibia. Wing grayish hyaline, veins black. Halter yellow, brown at club and base.

Abdomen rufous, with yellow anterior bands which are white pollinose in some views. Fifth tergite black dorsally on anterior half. Hairs on sides of first tergite white. The narrow first segment of the ovipositor and almost proximal half of second segment rufous, the remainder black. Third segment black on proximal two fifths and narrowly at the apex including the medial process and most of the apical structures. Preapical band white and white haired occupying two fifths of the third segment.

Length: 14 mm. (Abdomen 4 mm, ovipositor 7 mm.).

Type Data. Holotype ♂. Costa Rica, Ala., 20 km S. Upala, 11-15.v.1990. F.D. Parker (Utah State University). Paratype: Same data as holotype, 11-20.iv.1991. Similar to the holotype but having black on the fourth tergite proximally at the center, and apically at the sides.

Remarks. In the key to the species of the *neglecta* group (Camras and Parrillo, 1985:123), this species keys to *S. triannulata* Camras and Parrillo, 1985 (Fig. 6). That species has a longer and more slender ovipositor, more than twice the length of the abdomen. The rufous at the base of the second segment is very short, and the white area on the third segment occupies about five-sixths. There is almost no black apically.

Etymology. Named after Philip P. Parrillo, Field Museum, Insect Division, Chicago, in appreciation of his opinions, advice, and assistance over many years.

ACKNOWLEDGEMENTS

My thanks are due to David Pollock for assistance in preparation of the manuscript; to Lori Grove for inking and preparing the illustrations for publication; and to Rupert Wenzel and Alfred Newton for reviewing the manuscript and making suggestions. All are staff members of the Field Museum.

LITERATURE CITED

- Camras, S. 1955. A review of the new world flies of the genus *Conops* and allies (Diptera: Conopidae). Proceedings of the United States National Museum 105 (3355):155-187.
- Camras, S. and P. P. Parrillo. 1985. Review of new world *Stylogaster* (Diptera: Conopidae). Annals of the Entomological Society of America 78:111-126.
- Pearson, D. L. and S. Camras. 1978. Notes and key to neotropical *Zodion* (Diptera: Conopidae). Journal of the Kansas Entomological Society 51(2):198-206.
- Zumbado, M and F. C. Thompson. 1997. Nuevas especies de *Sterphus* (Diptera: Syrphidae) de Costa Rica con notas sobre especies presentes en Costa Rica. Southwestern Entomologist 22: 79-90.